In the Specification:

Please amend the last full paragraph of page 11 through the second full paragraph of page 12 as follows:

Fig. 2 shows the expected frequency spectrum of the characteristic heart sounds, a murmur, and rumble noise. The spectrums are rough approximations and for illustration purposes only. The magnitude Amp. of the spectrums are in arbitrary units and shown as a function of the frequency F [Hz]. The frequency spectrum 201 [301] of the characteristic heart sounds related to a contraction and an expansion of a beating heart is illustrated roughly. In the literature the sound related to a contraction is denoted S1 and the sound related to an expansion is denoted S2. The frequency spectrum of the frequency contents of S1 and S2 is primarily located between 20 and 50Hz but may be distributed up to 100-200Hz and down to below 10Hz.

However, the frequency contents of murmurs are typically distributed at higher frequencies. This is shown by the frequency response 202 [302] The frequency contents of murmurs comprising 'musical' sounds is distributed over a relatively narrow-band frequency range 206 [306] This relative narrow band comprises information that may be used for estimation of the heart rate. Typically, murmurs are also associated with a relative broad band 205 not comprising information regarding the heart rate. An absolute numerical definition of these frequency bands and the magnitudes of the auscultation signal in these bands will depend on the murmur in question.

The frequency spectrum 204 [304] of low-frequent rumble noise typically overlaps the frequency spectrum 201 [301] of the characteristic heart sounds.

The transfer function 203 [303] shows a preferred transfer function for a filter for calculating a biased auscultation signal. The filter is thereby able to enhance the amplitude of the frequency components of the upper part of the frequency spectrum of the characteristic heart sounds and the amplitude of the frequency components of the frequency spectrum of

murmurs. Further, low-frequency rumble noise that may be present in the auscultation signal is diminished. The transfer function 203 [303] comprises a high-pass 40 dB per decade slope. The slope may be a part of an approximated A-weighing function, where the approximation is implemented as a second order band-pass filter with a centre frequency of 2000Hz.

Please amend the paragraph spanning pages 12 & 13 as follows:

The embodiment comprises a bias processor 301 processing the VCG samples at a rate synchronous with the sample frequency and an estimator 302 capable of operating asynchronously relative to the bias processor and providing a signal HR representative of the heart rate, when it is requested. The estimator 302 receives data in the form of samples from the bias processor 301 via the buffer 303. The buffer 303 may be in the form of a circular buffer or a first-in-first-out (FIFO) memory.